

3

By way of example and not limitation, the backing **14** can be formed of an expanded polystyrene (EPS) foam material, and the siding component **12** can be formed of a vinyl material. By way of example and not limitation, the foam can have a permeability rating of 1.0 or higher. By way of example and not limitation, a suitable adhesively-formed composite siding panel on which the present invention may be advantageously used is manufactured by Progressive Foam Technologies of Beach City, Ohio.

With reference to FIG. 2, the composite siding product **10** is further illustrated. As illustrated in FIG. 2, the rear face of the backing **14** can include a drainage plane made up of a grid network that can include a plurality of drainage grooves **19**. As shown in the example of FIG. 2, the drainage grooves **19** can be positioned in a diamond pattern and can be set apart with a spacing of one inch. As water flows through the grid made up of the drainage grooves **19**, the water can flow into a plurality of exit grooves **20**. The exit grooves **20** can be positioned on a pocketed area **21** of the backing **14**. The exit grooves **20** can intersect the drainage grooves **19**. The exit grooves **20** can facilitate the water to travel into at least one weep hole **13**. After exiting the at least one weep hole **13**, the water can be harmlessly directed to the exterior surface of the siding component **12** and ultimately to the ground.

With reference to FIG. 2, the backing **14** is shown just before mounting to the siding component **12**. As shown, the backing **14** is mounted so that an overlap end proximate to the top edge of the backing **14** overlaps the nail strip **15**. The front face of the pocketed end **21** is mounted flush to the siding component and above the locking flange **17**. FIG. 1 shows the backing **14** and siding component mounted.

As illustrated in FIG. 3A, each set of drainage grooves **19** can be arranged in a diamond pattern at roughly a 30° angle from a vertical orientation. It is understood, that, as will be described below, the grooves can be positioned in a wide variety of angles and in a wide variety of patterns.

With reference to FIGS. 3B-3D, there is illustrated a plurality of examples of grid arrangements. These arrangements can include a diagonal pattern as illustrated in FIG. 3B, a vertical pattern as illustrated in FIG. 3C, and/or a square pattern with the drainage grooves **19** positioned at an angle of 45° from the vertical orientation as illustrated in FIG. 3D.

With reference to FIG. 4, the preferred profile of each drainage groove **19** and each exit groove **20** is illustrated. By way of example and not limitation, each drainage groove **19** and each exit groove **20** can have a depth of approximately 1/16 to 1/8 of an inch, inclusive. In the preferred embodiment, each drainage groove **19** and exit groove **20** can have a tapered or rounded bottom **23** to cause the water to flow with reduced surface tension. Each drainage groove **19** and each exit groove **20** can include a tapered edge **21** to encourage water to flow freely into each groove. As water is drawn into the grid, a syphoning effect will cause water flow to increase.

The drainage plane of the present invention may be formed in a wide variety of ways. By way of example and not limitation, the drainage plane can be formed by molding the drainage grooves **19** and the exit grooves **20** into the rear face of the backing **14**, and/or the drainage grooves **19**, and the exit grooves **20** can be cut into the rear face of the backing **14** using hot wires or the like.

What is claimed is:

1. A siding panel for mounting on an exterior wall of a building comprising:

a siding component having a top end and a bottom end, the bottom end comprising a locking flange with a plurality of apertures defined therein; and

4

a foam panel backing including a main body portion having a rear face and a front face opposite the rear face mounted on the siding component, a pocketed end, and a top end opposite the pocketed end;

wherein the rear face is mountable on the exterior wall and includes a plurality of drainage grooves over the entire rear face operable to remove water from a surface of the exterior wall;

wherein the pocketed end has a front face contiguous with the front face of the main body portion and a rear face spaced from the rear face of the main body portion to form a step with a bottom edge of the rear face, both the bottom edge of the rear face and the rear face of the pocketed end including a plurality of exit grooves positioned along the pocketed end, the exit grooves each having an origin and a terminus, the origin of each exit groove contiguous and in fluid communication with at least one drainage groove defined in the rear face of the main body portion, the terminus of each exit groove located at a bottom edge of the rear face of the pocketed end and in fluid communication with the plurality of apertures of the locking flange to facilitate the removal of water away from a surface of the exterior wall;

wherein the top end of the foam panel backing has a lip that extends over the top end of the siding component, and wherein the top end of the foam panel backing has a single smooth top surface; and

wherein the plurality of drainage grooves comprises a network of grooves positioned in a square grid pattern oriented at an angle of forty-five degrees (45°) from vertical.

2. The siding panel of claim 1, wherein the plurality of grooves are integrally formed into the rear face of the foam panel backing.

3. The siding panel of claim 1, wherein the plurality of grooves are cut into the rear face of the foam panel backing.

4. The siding panel of claim 3, wherein the plurality of grooves are cut into the rear face of the foam panel backing using hot wires.

5. The siding panel of claim 1, wherein the front face is contoured complementary to a rear face of the siding component.

6. The siding panel of claim 1, wherein the plurality of grooves each has a tapered bottom for increased water flow due to reduced surface tension.

7. The siding panel of claim 1, wherein the plurality of grooves each has a rounded bottom for increased water flow due to reduced surface tension.

8. The siding panel of claim 1, wherein the plurality of grooves each has a tapered edge to encourage water to flow freely into the groove.

9. The siding panel of claim 1, wherein the siding component further comprises a nail strip including a plurality of nail apertures for securing the siding to the exterior wall of the building.

10. The siding panel of claim 1, wherein the siding component further comprises:

a locking lip located proximate to the top edge of the siding component, wherein the locking flange is configured to operably engage the locking lip of an adjacent siding panel while maintaining at least a portion of the rear face of the pocketed end in spaced relation to the adjacent siding panel to maintain water removal through the exit grooves to an external area through the apertures.

11. A foam insulation backing mountable on a siding component, the foam insulation backing comprising: